

Amendments to the Specification:

Replace paragraph [0001] on page 1 with the following corrected paragraph:

[0001] This application is a continuation-in-part of application serial number ~~09/795,285~~, 09/795,295 filed October 1, 1999 and claims priority therefrom. The entire contents of application SN ~~09/795,285~~ 09/795,295 are incorporated herein by reference and made a part hereof for all purposes.

Replace paragraph [0007] on page 3 with the following corrected paragraph:

[0007] GaAs exists in the form of bulk crystals, but can also be deposited as high quality thin films by molecular beam epitaxy (MBE), organometallic vapor phase epitaxy (OVPE), among other deposition techniques. Such deposition techniques permit the deposition and formation of GaAs thin films but also, and significantly, permit the deposition of alloys of GaAs. That is, a thin film of GaAs is deposited along with one or more additional components to form a thin film compound or alloy. Typical GaAs alloys comprise ternary compounds in which a third component is included, such as aluminum (forming AlGaAs), indium (forming InGaAs) as well as dilute nitrides GaAsN containing small amounts of nitrogen. Ga is typically substituted by aluminum (Al) and/or indium (In) while As is typically substituted by nitrogen (N), phosphorous (P) and/or antimony (Sb) resulting in a group of III-V compounds or alloys, including ternary

alloys such as GaAsP, GaAsSb, among others. While quaternary alloys (such as InGaAsN, InGaAsP) and even quinary alloys (GaInAsNPb) ~~of such~~ are known, our primary concern herein will be directed towards the ternary alloys of III-V compounds. Generally, such ternary alloys derived from GaAs are only obtained in thin film depositions, adding to the practical interest of thin film GaAs in the fabrication of practical electronic and optoelectronic devices.

Replace paragraph [00044] on page 16 with the following corrected paragraph:

[00044] As depicted in Fig. 1, Be in LT-GaAs introduces an electronic energy level between the valence band and the conduction band, in the "midgap" region. Furthermore, the Be energy level lies below that of the neutral As antisite, making it energetically favorable for the As antisite to lose an electron to the Be. Thus, an acceptor such as Be that has an energy level in the crystal below that of the antisite defect will tend to cause the antisite to ~~lose~~ lose at least one electron. It is expected that this result will generally hold for acceptor dopants added to compound semiconductors other than LT-GaAs. In particular, acceptors such as carbon (C), magnesium (Mg), copper (Cu), manganese (Mn), iron (Fe), nickel (Ni) and zinc (Zn) have been used in addition to Be. Compound semiconductors such as GaN, GaP, InGaAs, InGaP, AlGaP, among others, are expected to benefit from the introduction of acceptors, particularly balanced concentrations of acceptors.

Appl. No. 10/706,610
Amdt. dated September 27, 2005
Reply to Office Action of April 1, 2005

Delete "Attachment A," pages 42-129 of the specification.

A marked-up specification showing the above amendments is attached, as well as a Substitute Specification incorporating the above corrections is attached hereto. No new matter is introduced in the Substitute Specification.